



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,675	04/19/2001	Jong-Oh Kim	CHUNP0158US	8156

7590 03/18/2004
RENNER, OTTO, BOISSELLE & SKLAR, LLP
Nineteenth Floor
1621 Euclid Avenue
Cleveland, OH 44115-2191

EXAMINER

BEHULU, ALEMAYEHU

ART UNIT	PAPER NUMBER
----------	--------------

2682

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,825

Applicant(s)

SATO, NAOKI

Examiner

Alemayehu Behulu

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,5,6,11 and 13 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8-10 and 12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3-4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Priority

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

1. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee (U.S. Pub. No. 2002/0102956).

Regarding claim 1, Lee discloses a method for transmitting and receiving data using a continuous tone control squelch system (CTCSS) (paragraph [0001]), comprising the steps of: a) dividing an effective frequency band of said CTCSS into regular intervals, setting the divided intervals as channels and assigning data code values respectively to the set channels (figure 2 and paragraph [19] and figure 4); b) for data transmission, successively transmitting CTCSS frequency signals corresponding respectively to code values of specific data; and c) for data

Art Unit: 2682

reception, converting successively received CTCSS frequency signals into corresponding data code values, respectively (paragraphs [0006] and [0007]).

Regarding claim 2, Lee discloses the method as set forth in claim 1, wherein said effective frequency band of said CTCSS is 67 Hz.about.250 Hz (figure 4).

Regarding claim 3, Lee discloses the method as set forth in claim 1, wherein said step includes the step of transmitting said CTCSS frequency signals corresponding respectively to said code values of said specific data together with a user's voice signal over a carrier ; and wherein said step includes the step of receiving a carrier signal containing a voice signal and CTCSS frequency signals from another party , separating the voice signal and CTCSS frequency signals from the received carrier signal, performing an audio signal processing operation for the separated voice signal and converting the separated CTCSS frequency signals into corresponding data code values, respectively; whereby the data transmission and data reception are conducted without stopping a voice conversation (figure 1 and paragraphs [0006], [0007] and [0016]).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2002/0102956) further in view of Sprague (U.S. Patent No. 5, 422, 816)

Regarding claim 4, Lee discloses the method as set forth in claim 1. However, Lee fails to disclose wherein said data transmitted and received using said CTCSS frequency signals is global positioning system (GPS). But, Sprague wherein said data transmitted and received using said CTCSS frequency signals is global positioning system (GPS) data (figure 1, numbers 28, 26, 18 and column 1, lines 49-column 2, lines 18). Therefore, at the time of the invention it would

Art Unit: 2682

have been obvious to a person of ordinary skill in the art to combine Lee (U.S. Pub. No. 2002/0102956) with Sprague (U.S. Patent No. 5, 422, 816) in order to for the radio terminals to identify their locations which can save life in case of emergency.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Pub. No. 2002/0102956) further in view of Gruenberg (U.S. Patent No. 4, 477, 900).

Regarding claim 5, Lee discloses the method as set forth in claim 1 and dividing effective frequency band of CTCSS frequency and assigning data code values respectively to center frequencies of the divided channel (figures 4 and 5). However, Lee fails to disclose wherein said step includes dividing said effective frequency band is represented as number of n bits where n is 2 to the n channels. But, Gruenberg discloses wherein said step includes dividing said effective frequency band is represented as number of n bits where n is 2 to the n channels (column 19, lines 14-32 and table XIII, claims 6-8, 9 and 14, and figure 2). Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Lee (U.S. Pub. No. 2002/0102956) with Gruenberg (U.S. Patent No. 4, 477, 900) in order to utilize minimum bandwidth and at the same time increase capacity.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Sprague (U.S. Patent No. 5, 422, 816).

Regarding claim 1, Sprague discloses a method for transmitting and receiving data using a continuous tone control squelch system (CTCSS) (figure 1), comprising the steps of: a) dividing an effective frequency band of said CTCSS into regular intervals and setting the divided intervals as channels and assigning data code values respectively to the set channels (column 4, lines 17-

Art Unit: 2682

38); b) for data transmission, successively transmitting CTCSS frequency signals corresponding respectively to code values of specific data (column 4, lines 17-62) ; and c) for data reception, converting successively received CTCSS frequency signals into corresponding data code values, respectively (column 4, lines 17-62).

Regarding claim 2, Sprague discloses the method as set forth in claim 1, wherein said effective frequency band of said CTCSS is 67 Hz.about.250 Hz (column 4, lines 17-24).

Regarding claim 3, Sprague discloses the method as set forth in claim 1, wherein said step includes the step of transmitting said CTCSS frequency signals corresponding respectively to said code values of said specific data together with a user's voice signal over a carrier (column 1, lines 57-column 2, lines 18, column 4, lines 17-38); and wherein said step includes the step of receiving a carrier signal containing a voice signal and CTCSS frequency signals from another party (column 3, lines 52-59), separating the voice signal and CTCSS frequency signals from the received carrier signal (figure 1, number 26), performing an audio signal processing operation (figure 1, numbers 22, 24) for the separated voice signal and converting the separated CTCSS frequency signals into corresponding data code values, respectively; whereby the data transmission and data reception are conducted without stopping a voice conversation (column 2, lines 36-55, column 3, lines 1-41 and column 4, lines 17-38).

Regarding claim 4, Sprague discloses the method as set forth in claim 1, wherein said data transmitted and received using said CTCSS frequency signals is global positioning system (GPS) data (figure 1, numbers 28, 26, 18 and column 1, lines 49-column 2, lines 18).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sprague (U.S.

Patent No. 5, 422, 816) further in view of Gruenberg (U.S. Patent No. 4, 477, 900).

Regarding claim 5, Sprague discloses the method as set forth in claim 1 and dividing effective frequency band of CTCSS frequency and assigning data code values respectively to center frequencies of the divided channel (column 4, lines 18-38). However, Sprague fails to disclose wherein said step includes dividing said effective frequency band is represented as number of n bits where n is 2 to the n channels. But, Gruenberg discloses wherein said step includes dividing said effective frequency band is represented as number of n bits where n is 2 to the n channels (column 19, lines 14-32 and table XIII, claims 6-8, 9 and 14, and figure 2). Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Sprague (U.S. Patent No. 5, 422, 816) with Gruenberg (U.S. Patent No. 4, 477, 900) in order to utilize minimum bandwidth and at the same time increase capacity as suggested by Gruenberg (column 1, lines 66-column 2, lines 11).

5. Claim 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sprague (U.S. Patent No. 5, 422, 816) further in view of Stewart (U.S. Patent No. 3, 962, 645).

Regarding claim 6, Sprague discloses an apparatus for transmitting and receiving data using a continuous tone control squelch system (CTCSS) by a first wireless communication terminal one-to-one communicating with a second wireless communication terminal, said first and second wireless communication terminals being the same in construction (figure 1, column 1, lines 54-60 and column 3, lines 51-column 4, lines 7), said apparatus comprising: transmitter means including a first data processor for converting specific data to be transmitted into CTCSS frequency signals on the basis of a pre-registered CTCSS frequencies-by-codes table, a CTCSS frequency generator for generating the converted CTCSS frequency signals under control of said first data processor, and a radio transmitter for mixing said CTCSS frequency signals from said CTCSS frequency generator with a voice signal from said first wireless communication terminal and transmitting the mixed result (column 4, lines 17-61) to said second wireless communication terminal over a predetermined carrier (column 1, lines 49-60, column 3, lines 51-column 4, lines 7); and receiver means including a radio receiver for receiving a carrier signal containing CTCSS frequency signals and a voice signal from said second wireless communication terminal (figure 1, column 1, lines 61-column 2, lines 18, column 2, lines 36-55, column 3, lines 51-column 4, lines 38) and separating the CTCSS frequency signals and voice signal from the received carrier signal (column 3, lines 1-41, column 4, lines 39 -61). However, Sprague fails to disclose a CTCSS frequency discriminator for discriminating which frequencies of said pre-registered CTCSS frequencies-by-codes table are channel frequencies of said CTCSS frequency signals separated by said radio receiver, and a second data processor for converting said CTCSS frequency signals separated by said radio receiver into the original data on the basis

Art Unit: 2682

of the pre-registered CTCSS frequencies-by-codes table and the results discriminated by said CTCSS frequency discriminator. But, Stewart discloses CTCSS frequency discriminator for discriminating which frequencies of said pre-registered CTCSS frequencies-by-codes table are channel frequencies of said CTCSS frequency signals separated by said radio receiver, and a second data processor for converting said CTCSS frequency signals separated by said radio receiver into the original data on the basis of the pre-registered CTCSS frequencies-by-codes table and the results discriminated by said CTCSS frequency discriminator (figure 1, numbers 15-22 and column 3, lines 6-46). Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Sprague (U.S. Patent No. 5, 422, 816) with Stewart (U.S. Patent No. 3, 962, 645) in order to receive the intended or clearer signal.

Regarding claims 7 and 8 please see Sprague column 1, lines 49-column 2, lines 18 and column 3, lines 51-column 4, lines 16.

Allowable Subject Matter

6. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 9, the applied references fail to disclose, or render obvious the claimed limitations that first GPS set and second GPS set are integrated into a single GPS set, single GPS set being adapted for receiving a GPS satellite signal, calculating the position value of first wireless communication terminal on the basis of the received GPS satellite signal, outputting the calculated position value as said specific data to be transmitted, to said first data processor in said transmitter means, processing said data converted by said second data processor in said receiver means and displaying the position of said second wireless communication terminal in accordance with the processed result, as specified in the claim.

Art Unit: 2682

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Freeburg et al. (U.S. Patent No. 4, 131, 849) Two-Way Mobile Radio Voice/Data Shared Communications System

Challen et al. (U.S. Patent No. 4, 171, 516) Tone Phase Shift Detector


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alemayehu Behulu whose telephone number is 703-305-4828.

The examiner can normally be reached on 8 AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600